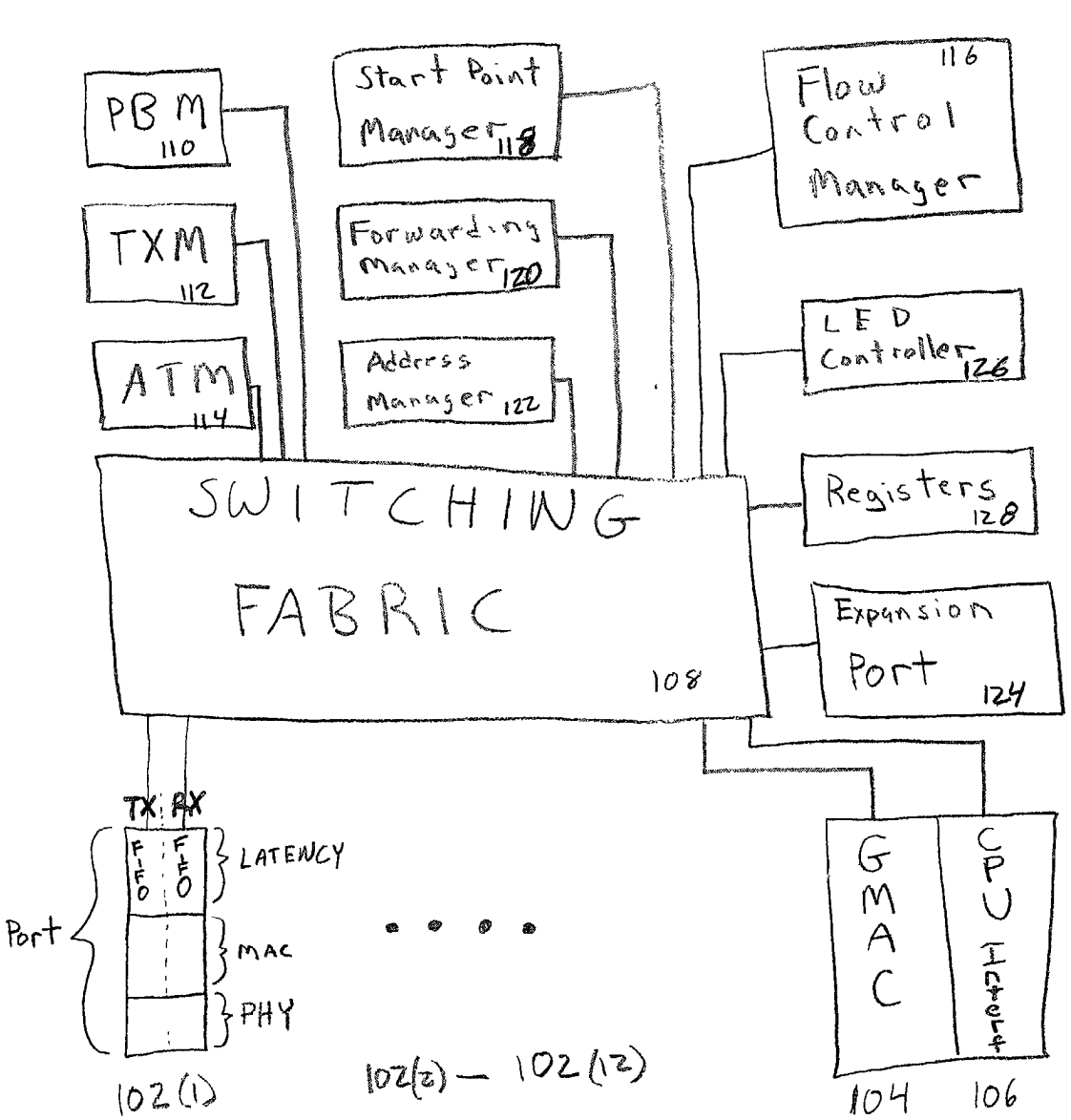
100
PBM 110
TXM 112
ATM 114
Start Point Manager 118
Forwarding Manager 120
Address Manager 122
Flow Control Manager 116
LED Controller 126
Registers 128
Expansion Port 124
SWITCHING FABRIC 108
TX RX
FIFO
FIFO
LATENCY
Port
MAC
PHY
102(1)
102(2) – 102(12)
GMAC 104
CPU Interf 106

FIG. 1A

EXPRESS MAIL

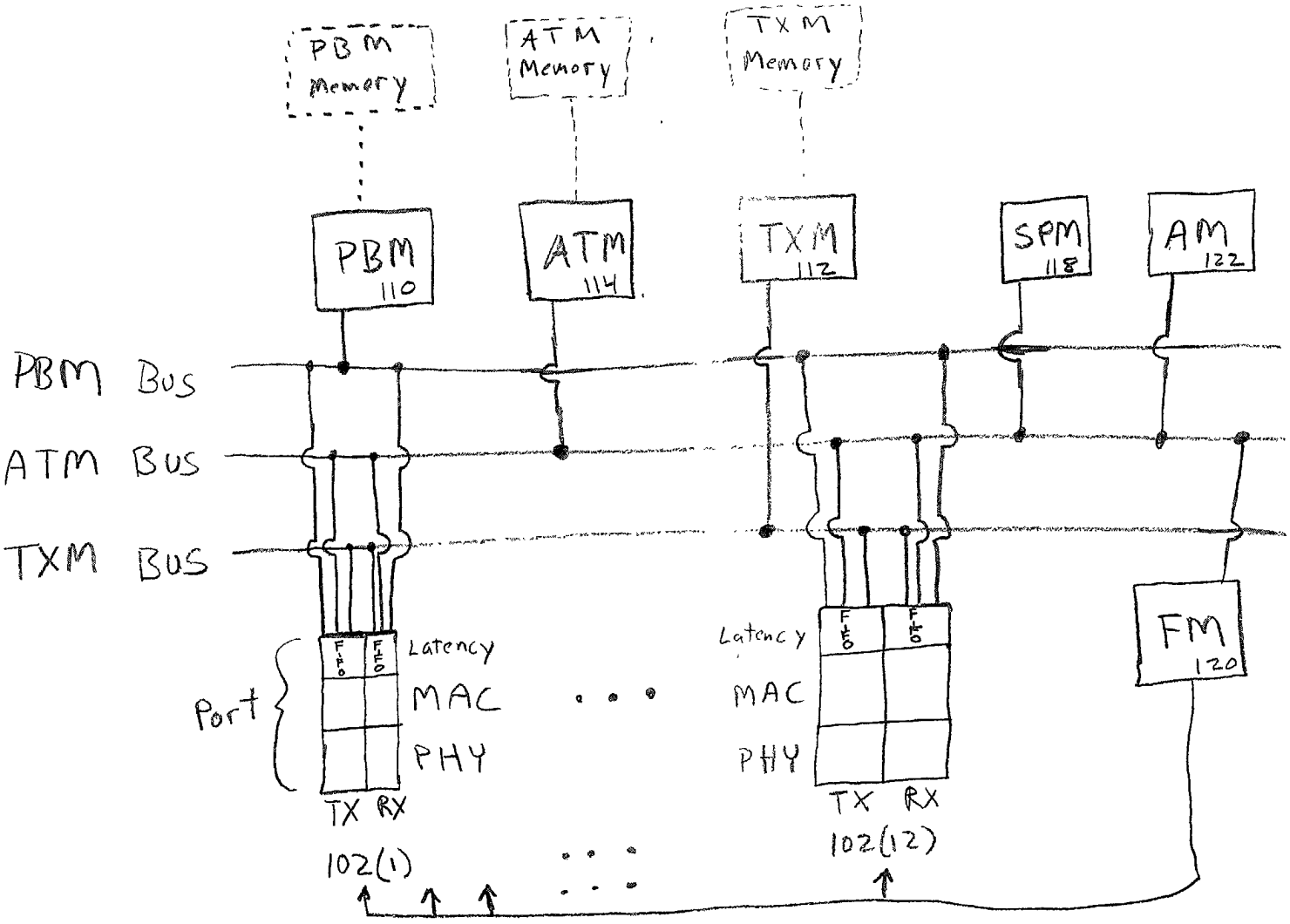

FIG. 1B

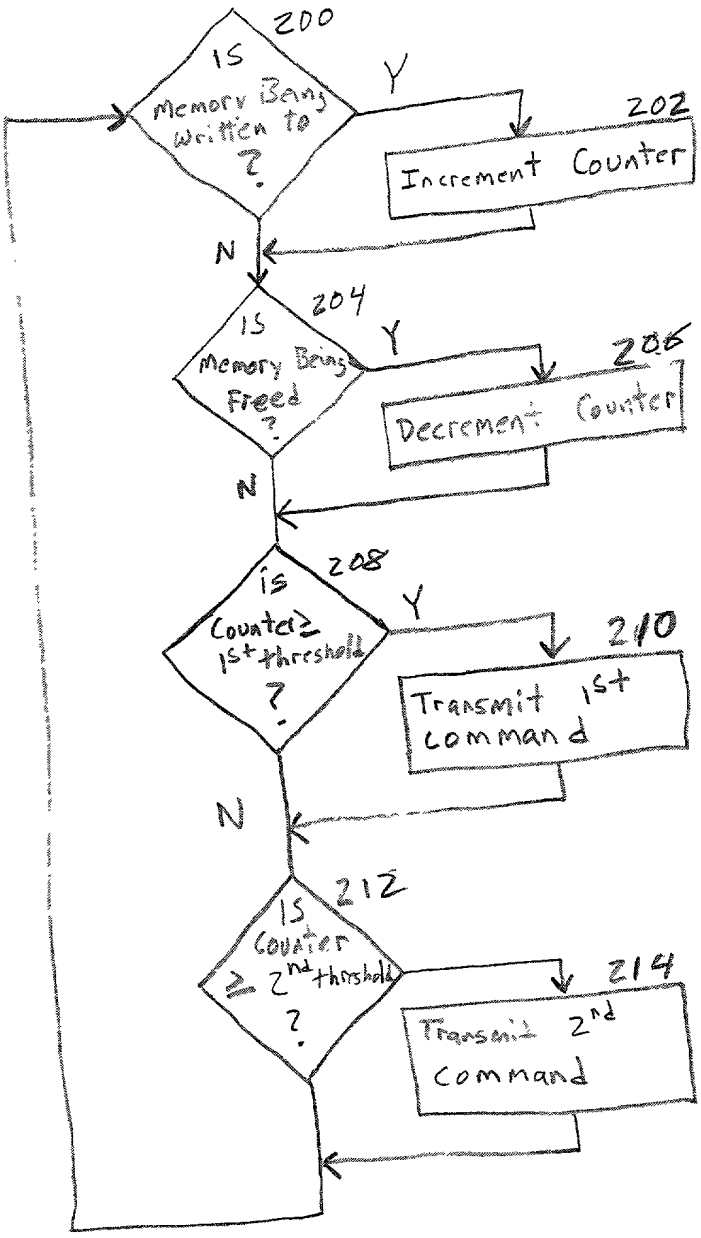
200
Is Memory Bank written to ?
Y
202
Increment Counter
N
204
Is Memory Bank Freed ?
Y
206
Decrement Counter
N
208
Is Counter ≥ 1st threshold ?
Y
210
Transmit 1st command
N
212
Is Counter ≥ 2nd threshold ?
214
Transmit 2nd command

FIG. 2A

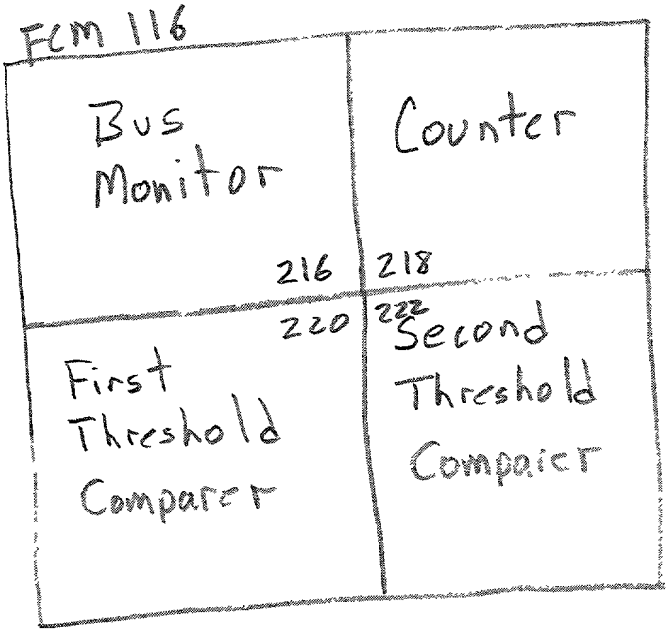
FCM 116
Bus Monitor
216
Counter
218
220
First Threshold Comparer
222
Second Threshold Comparer

FIG. 2B

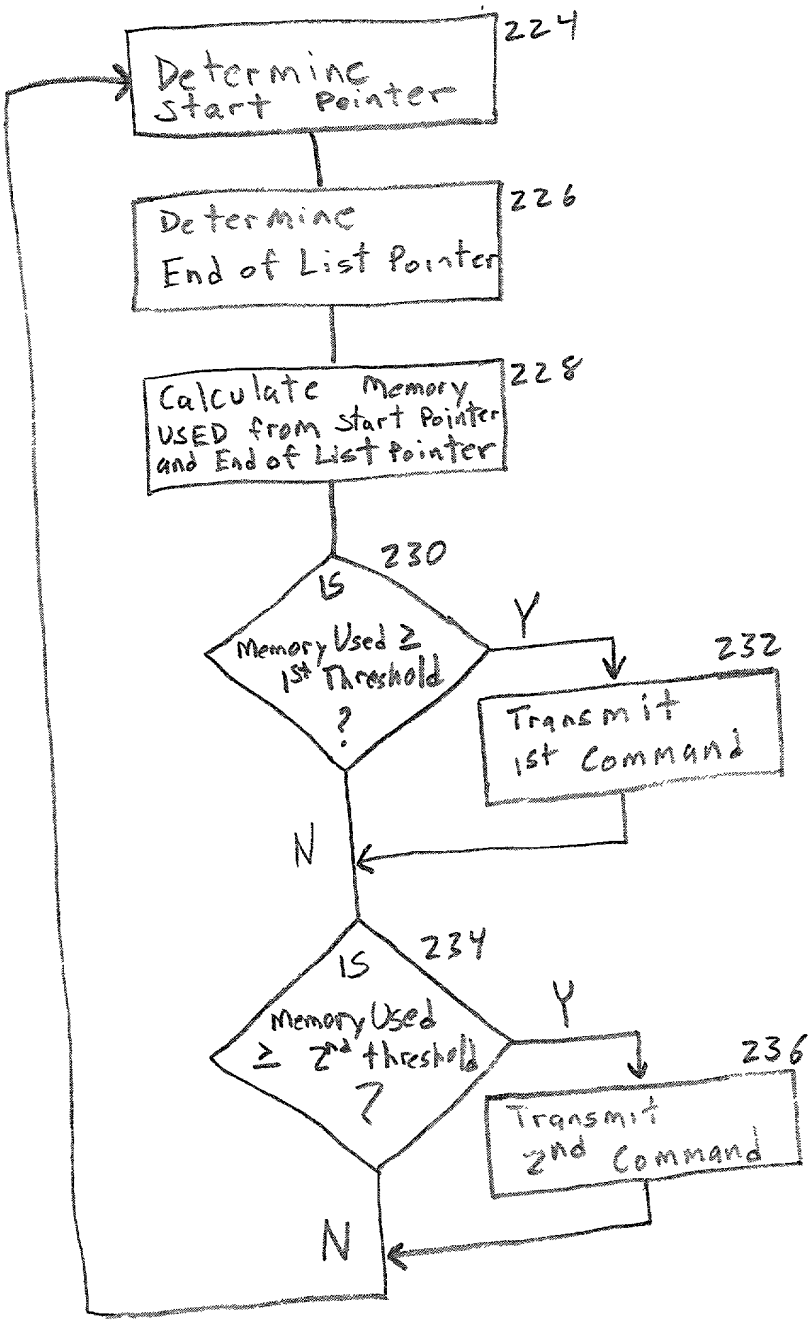
Determine Start Pointer
224
Determine End of List Pointer
226
Calculate Memory USED from Start Pointer and End of List Pointer
228
IS Memory Used ≥ 1st Threshold ?
230
Y
Transmit 1st Command
232
N
IS Memory Used ≥ 2nd threshold ?
234
Y
Transmit 2nd Command
236
N

FIG. 2C

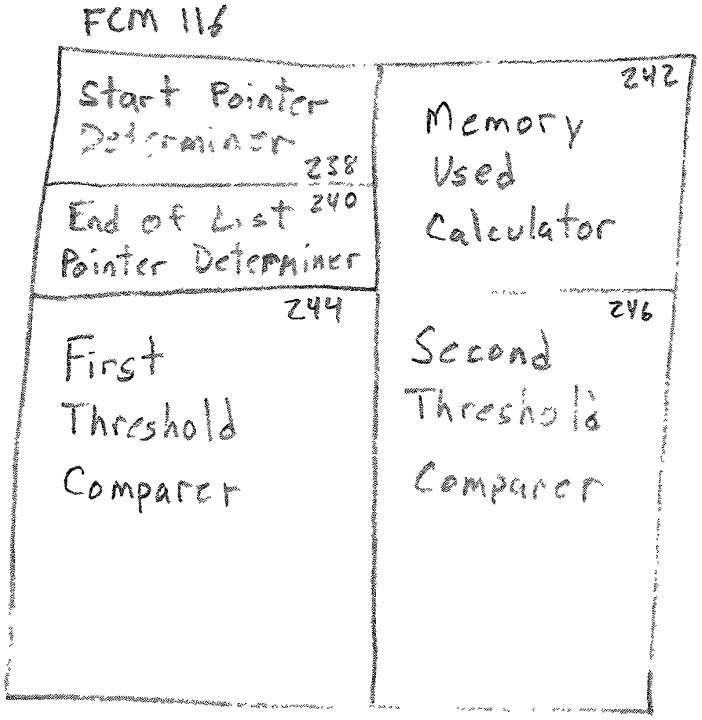
FCM 116
Start Pointer Determiner
238
End of List Pointer Determiner
240
242
Memory Used Calculator
244
First Threshold Comparer
246
Second Threshold Comparer

FIG. 2D

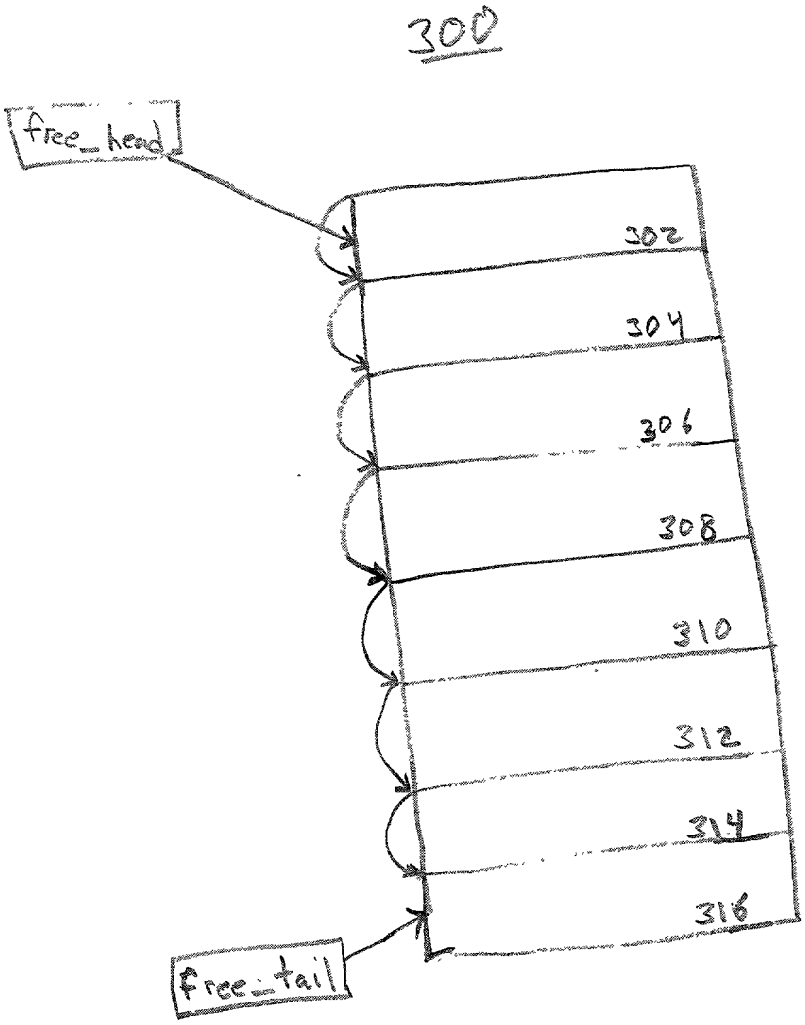

FIG. 3A

300

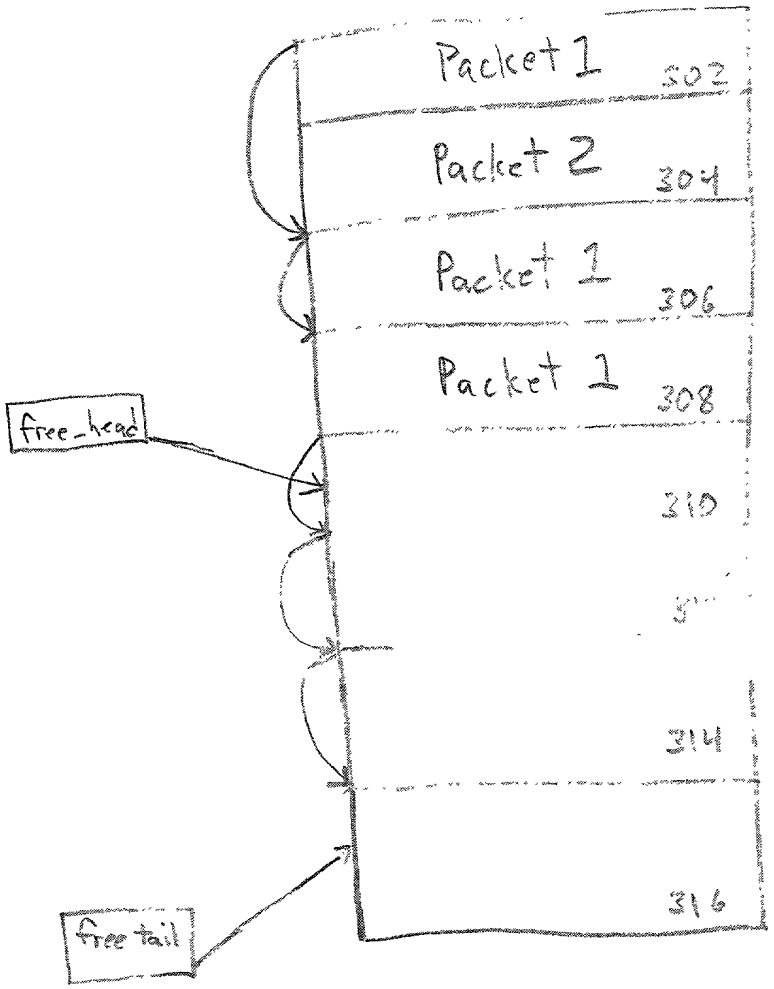
Packet 1
302
Packet 2
304
Packet 1
306
Packet 1
308
free_head
310
312
314
316
free tail

FIG. 3B

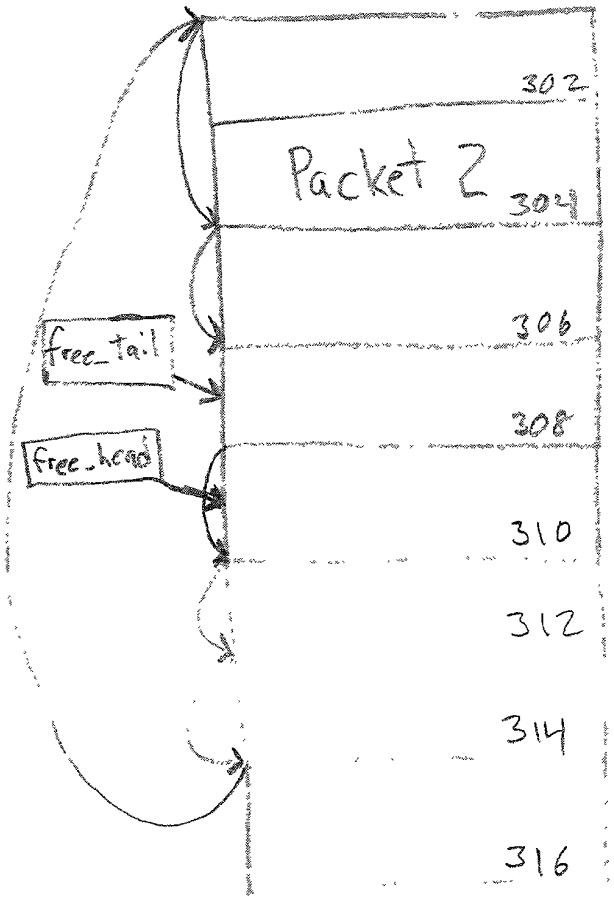

FIG. 3C

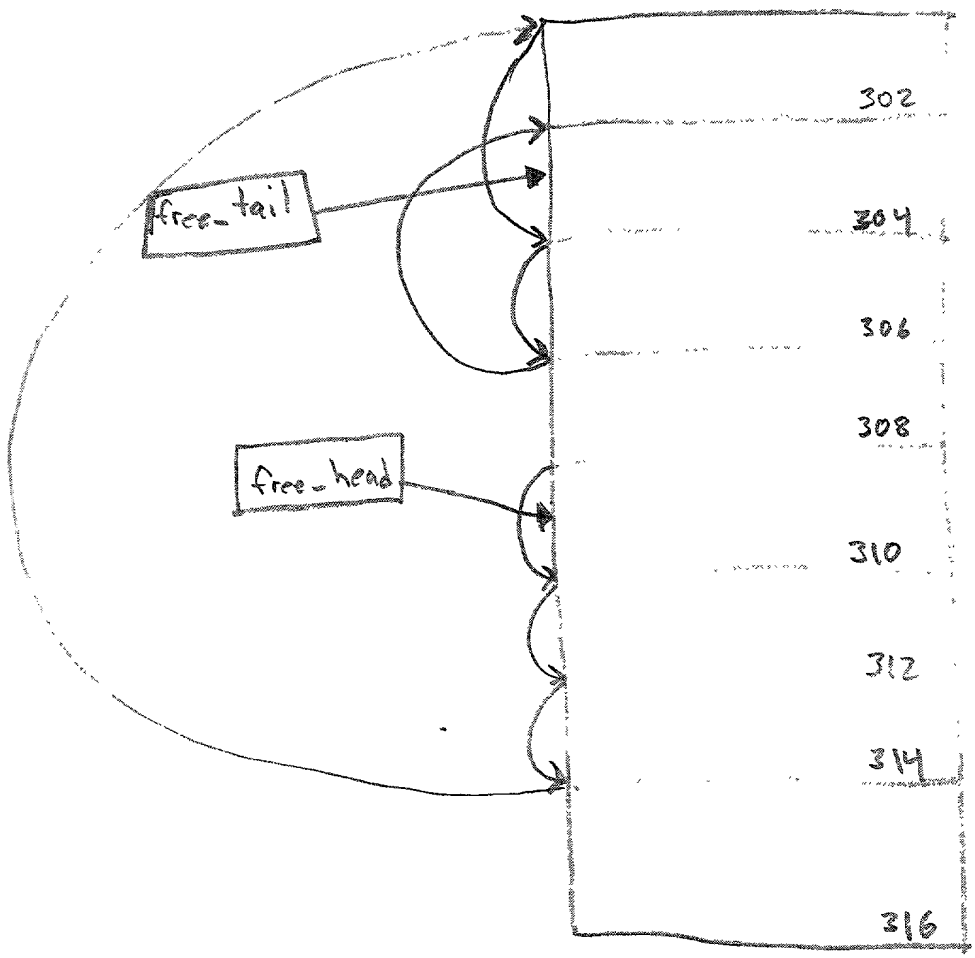

FIG. 3D